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(54) **METHODS, SYSTEMS, AND COMPUTER-READABLE MEDIA FOR GENERATING A REPORT INDICATING JOB AVAILABILITY**

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USPC 707/603, 688, 826, 827; 705/7.16, 7.13, 705/7.21
See application file for complete search history.

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(57) **ABSTRACT**

Methods, systems, and computer-readable media provide for generating a report indicating job availability. According to embodiments, a method for generating a report indicating job availability is provided. According to the method, a selected assignment group is displayed. A number of status messages received by a technician in the selected assignment group is displayed. The status messages indicate that no jobs are available for the technician. An amount of lost time associated with the technician in the selected assignment group is determined. The lost time includes a difference between a time at which the technician received one of the status messages and a time at which the technician is dispatched to a next job. The amount of lost time associated with the technician in the selected assignment group is displayed.

20 Claims, 9 Drawing Sheets

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Fig. 1

Fig. 2

Fig. 3
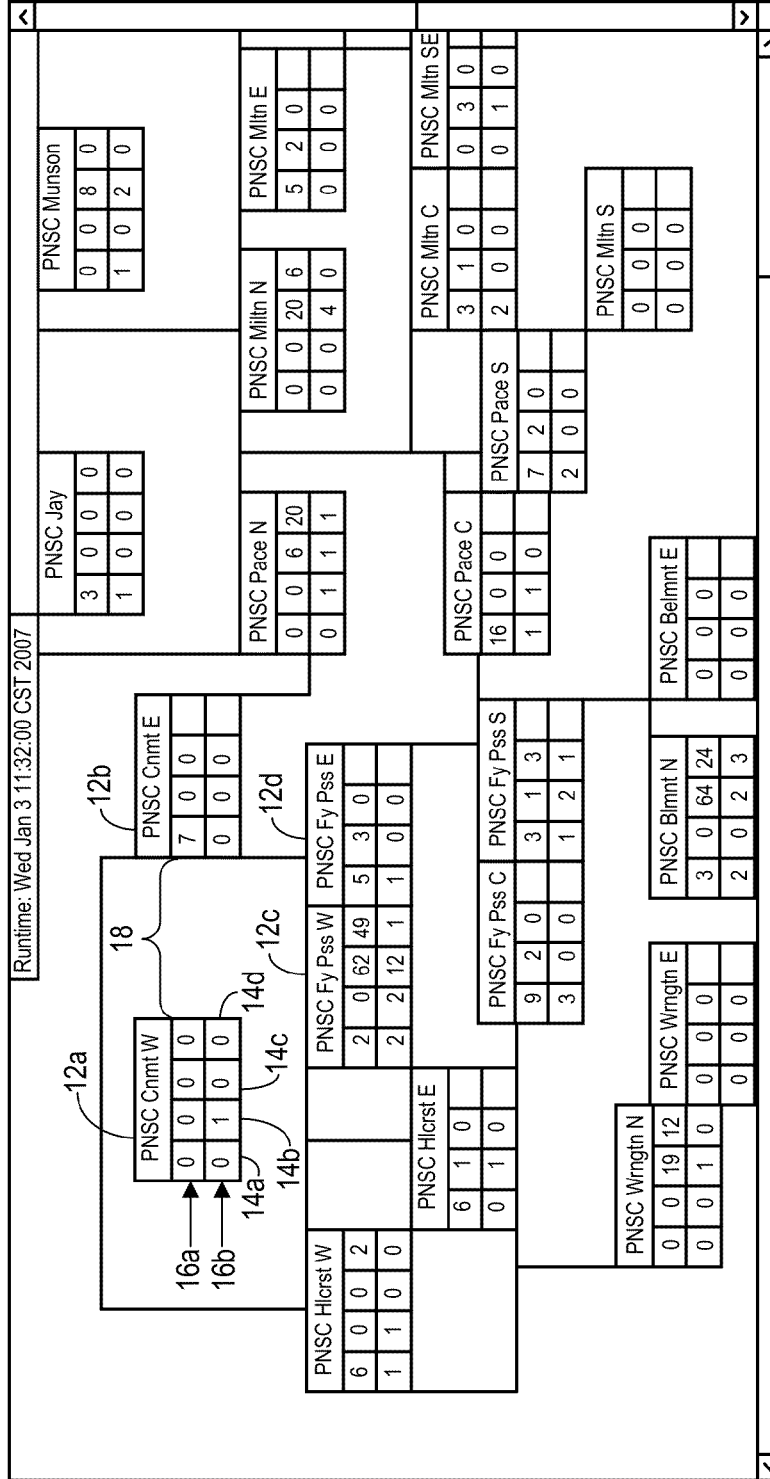
300

Data Storage Unit
114

Computer 110

Reallocation Module 112

NJA Report Module 216

Network
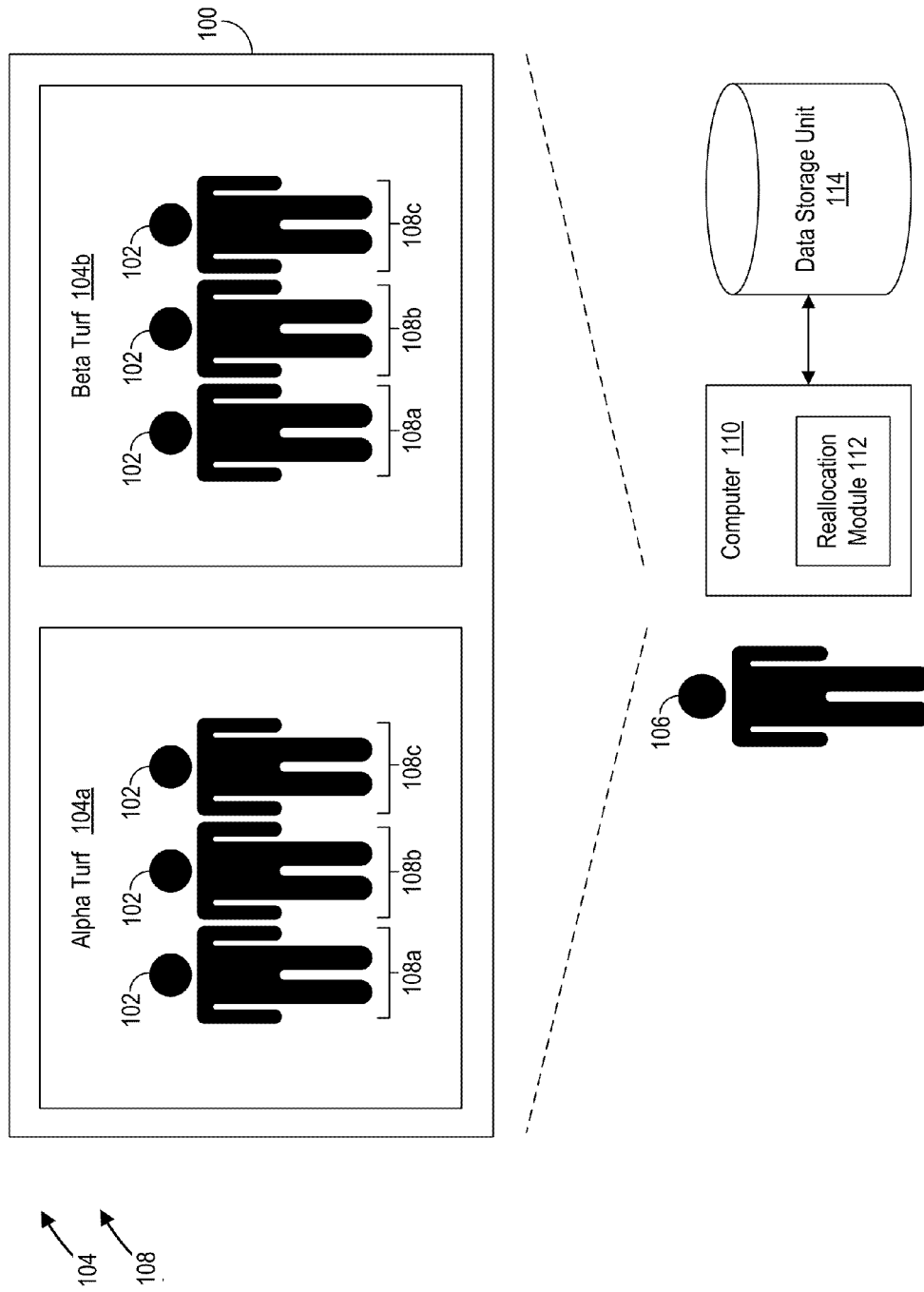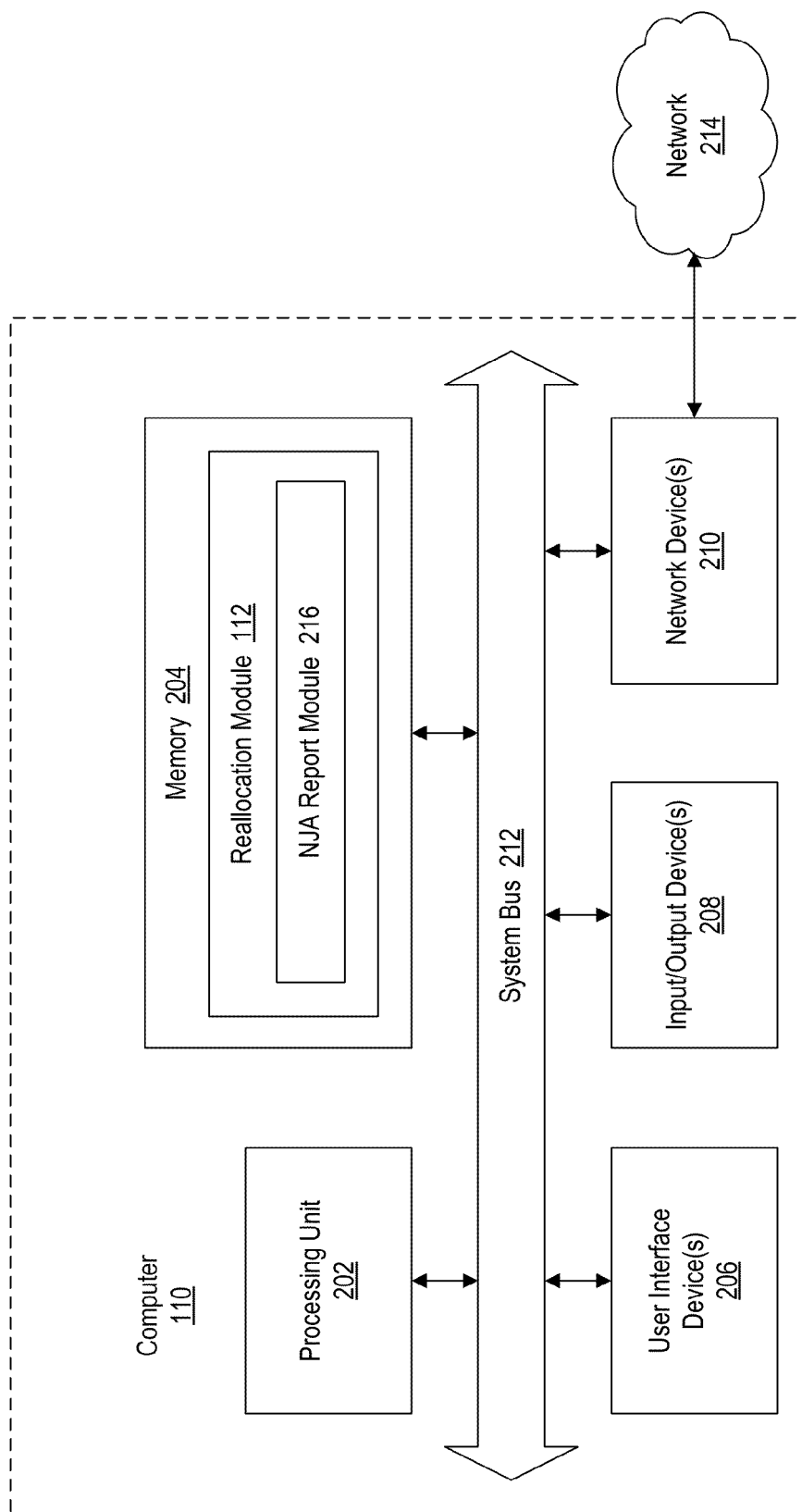214

302

308
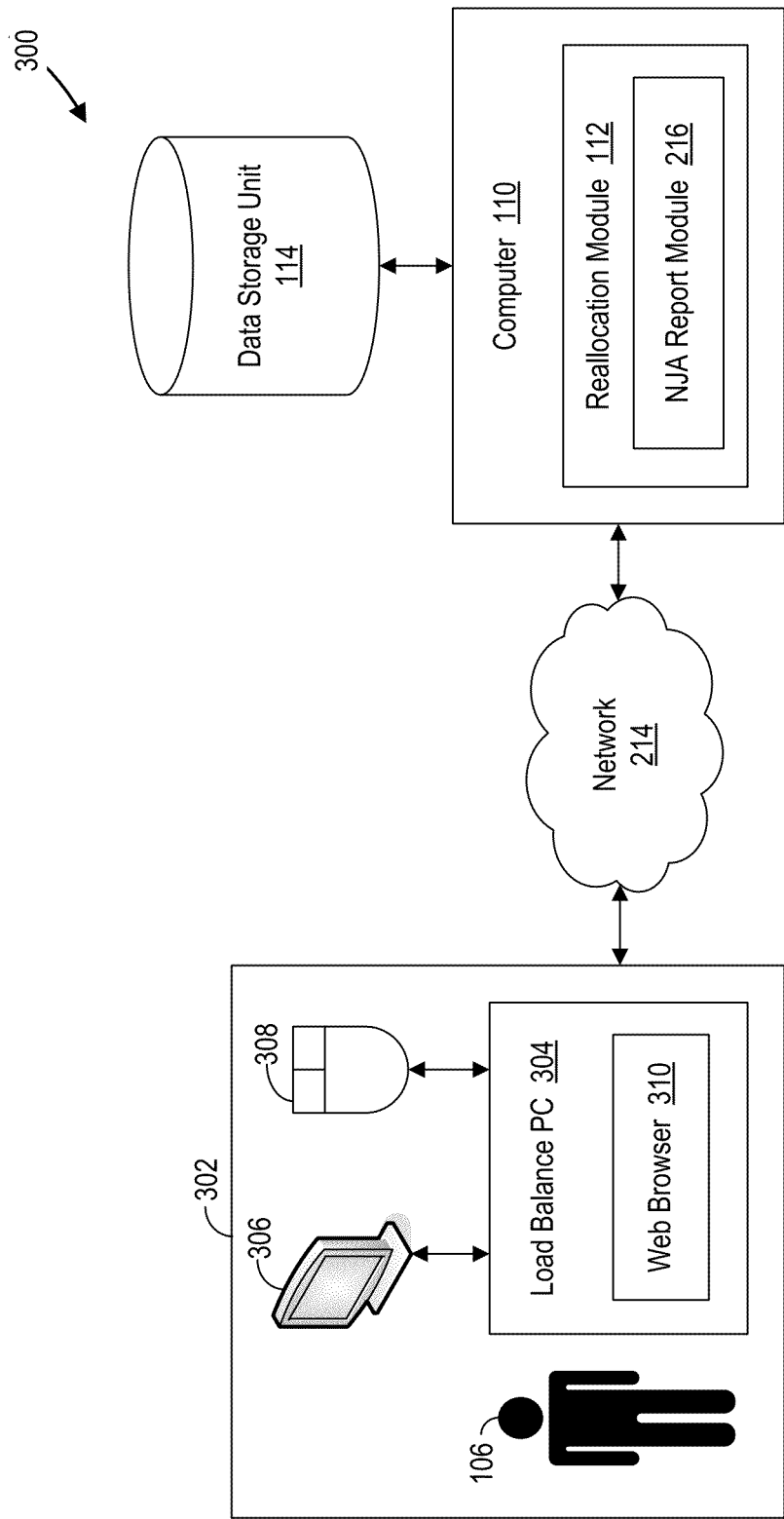
306
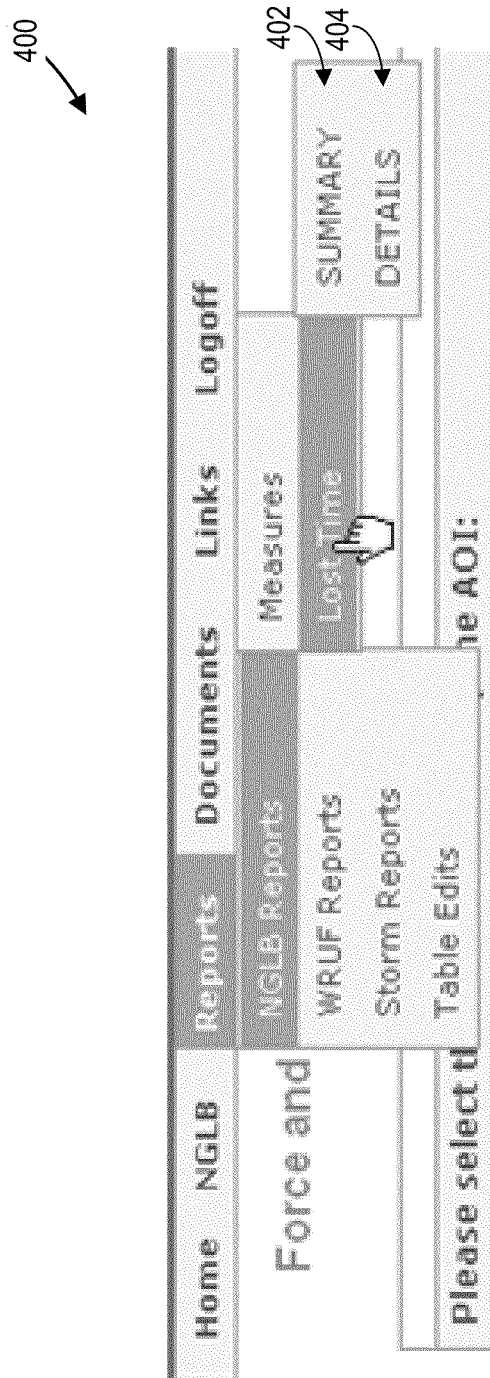
Load Balance PC 304

Web Browser 310

106

Fig. 4

Fig. 5

500

LOST TIME

SUMMARY   DETAILS

Please select the WMC followed by any or all of the following:

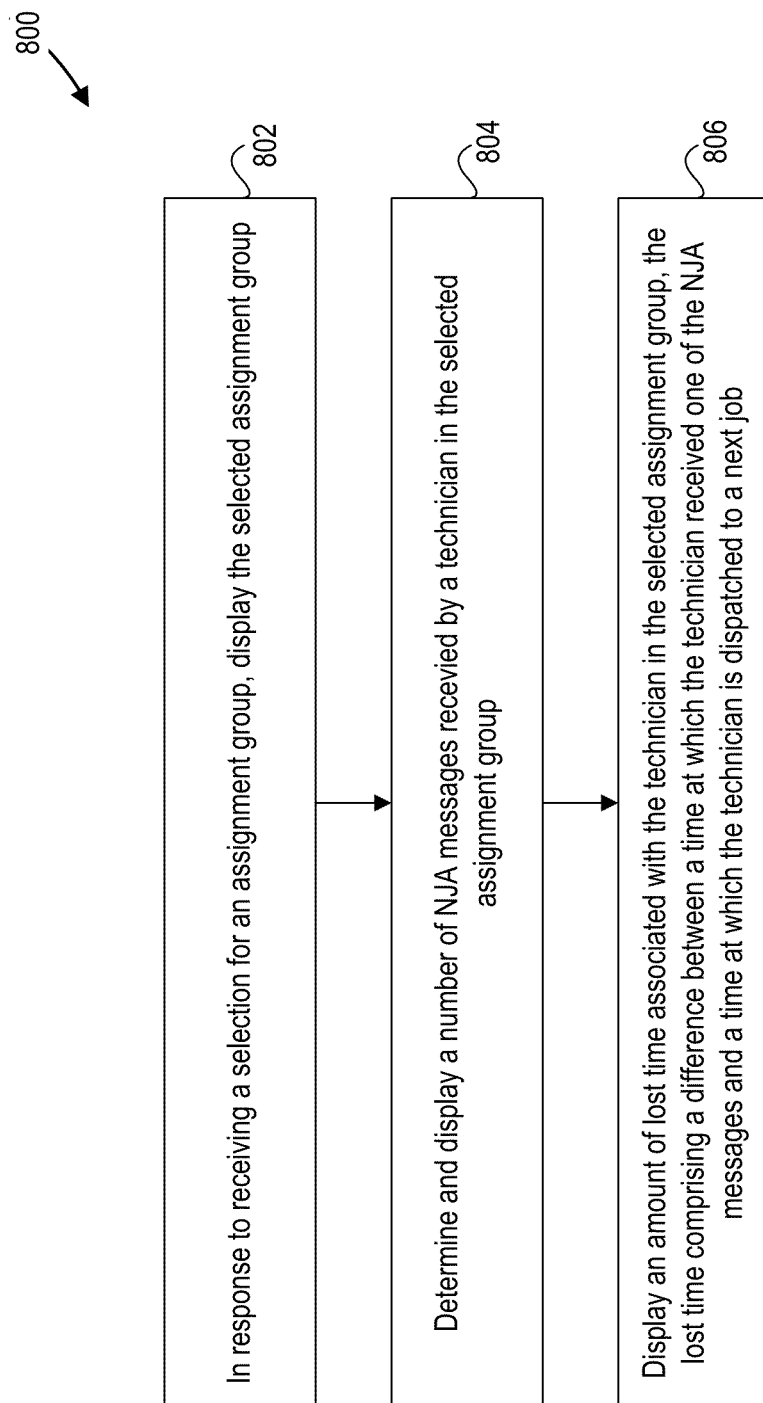| WMC:	ASGN GROUP:	Start Date:	End Date:	Get Report
502	504	506	508	510

Fig. 6

NGLB - Microsoft Internet Explorer provided by BellSouth

File Edit View Favorites Tools Help

Back ·

Address http://wruf2-west.bst.bls.com:8080/nglb/jspsman.jsp?menu=LOST%20TIME&menu=A&get_report=true&asgn_group=&date_set1=2007/06/118&date_set2=2007/06/118

WMC: AL   ASGN GROUP:

Start Date: 2007/06/11   **End Date:** 2007/06/11   Get Report

Summary

The LOST and LUNCH mins cols are the sum of the POTS, DSL, CBL, SPEC, &ND mins

Lunch mins are counted for NJA next dispatch ours between 1:00am - 1:00pm

WMC	NUM NJAS	TOT LOST MINS	LUNCH MINS	NET LOST MINS	POTS/LUNCH	DSL/LUNCH	CBL/LUNCH	SPEC/LUNCH	ND/LUNCH
AL	220	1,640	997	643	864/382	277/220	9/0	129/128	361/267

Report

X - View in Excel

ASGN GROUP	NUM NJAS	LOST MINS	LUNCH MINS	POTS MINS	POTS LUN MINS	DSL MINS	DSL LUN MINS	CBL MINS	CBL LUN MINS	SPEC MINS	SPEC LUN MINS	ND MINS	ND LUN MINS
AL_BHAM_023_PCA	3	16	16	16	16	0	0	0	0	0	0	0	0
AL_BHAM_122_PCA	1	11	0	11	0	0	0	0	0	0	0	0	0
AL_BHAM_123_PCA	2	16	0	16	0	0	0	0	0	0	0	0	0
AL_BHAM_222_PCA	3	7	0	7	0	0	0	0	0	0	0	0	0
AL_BHAM_223_PCA	7	22	3	22	3	6	6	0	0	0	0	0	0
AL_BHAM_322_PCA	9	28	28	22	22	6	6	0	0	0	0	0	0
AL_BHAM_323_PCA	3	11	0	11	0	0	0	0	0	0	0	0	0
AL_BHAM_423_PCA	4	22	0	22	0	0	0	0	0	0	0	0	0
AL_BHAM_522_PCA	3	10	0	10	0	12	0	4	0	0	0	0	0
AL_BHAM_523_PCA	2	23	0	11	0	0	0	0	0	0	0	0	0
AL_BHAM_622_PCA	5	54	50	50	50	0	0	0	0	0	0	0	0

Done, but with errors on page. Local intranet

Fig. 7

404

WMC	ASGN_GROUP	BUCKET	NJA_DATE	CUID	NAME	NEXT_DISP_DTTM	LOST_MINS	NUM_NJAS	SUPERVISOR	AREA_MGR	GEN
AL	BHAM_223_PC	NONDEMAND	2006-10-12 13:39:00.0	NYDDCNT	MILTON, DAVID W	2006-10-12 13:45:00.0	6	1	Calvert, Preston Heath	Pritchett, Michael G	Basd... Carl V
AL	BHAM_223_PC	DSL	2006-10-12 16:32:00.0	YBKYDMN	THOMAS, LANDON	2006-10-12 16:45:00.0	13	1	Calvert, Preston Heath	Pritchett, Michael G	Basd... Carl V
AL	BHAM_223_PC	POTS	2006-10-12 12:22:00.0	YBTQKGW	ARTHUR, LARRY H	2006-10-12 12:25:00.0	3	1	Spruiell, Michael	Pritchett, Michael G	Basd... Carl V
AL	BHAM_223_PC	POTS	2006-10-12 15:27:00.0	YBTQKGW	ARTHUR, LARRY H	2006-10-12 15:37:00.0	10	1	Spruiell, Michael	Pritchett, Michael G	Basd... Carl V

702 704 706 708 710 712 714 716 718 720 722

Fig. 8

800

In response to receiving a selection for an assignment group, display the selected assignment group

802

Determine and display a number of NJA messages received by a technician in the selected assignment group

804

Display an amount of lost time associated with the technician in the selected assignment group, the lost time comprising a difference between a time at which the technician received one of the NJA messages and a time at which the technician is dispatched to a next job

806

Fig. 9

METHODS, SYSTEMS, AND COMPUTER-READABLE MEDIA FOR GENERATING A REPORT INDICATING JOB AVAILABILITY

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a continuation of U.S. patent application Ser. No. 11/778,999, titled "Methods, Systems, and Computer-Readable Media for Generating a Report Indicating Job Availability," filed Jul. 17, 2007, now U.S. Pat. No. 8,380,744, which is related to commonly assigned U.S. Pat. No. 8,352,302, titled "Methods, Systems, And Computer-Readable Media For Determining A Plurality Of Turfs From Where To Reallocate A Workforce To A Given Turf," filed Jul. 17, 2007; commonly assigned U.S. Pat. No. 8,060,401, titled "Methods, Systems, And Computer-Readable Media For Providing An Indication Of A Schedule Conflict," filed Jul. 17, 2007; commonly assigned U.S. Pat. No. 8,069,072, titled "Methods, Systems, And Computer-Readable Media For Providing An Indication Of Hightime," filed Jul. 17, 2007; commonly assigned U.S. Pat. No. 8,249,905, titled "Methods, Systems, And Computer-Readable Media For Providing Future Job Information," filed Jul. 17, 2007; commonly assigned U.S. patent application Ser. No. 11/778,867, now abandoned, titled "Methods, Systems, And Computer-Readable Media For Providing Notification Of A Last Job Dispatch," filed Jul. 17, 2007; commonly assigned U.S. Pat. No. 8,239,232, titled "Methods, Systems, And Computer-Readable Media For Providing Commitments Information Relative To A Turf," filed Jul. 17, 2007; commonly assigned U.S. Pat. No. 8,341,547, titled "Methods, Systems, And Computer-Readable Media For Providing Contact Information At Turf Level," filed Jul. 17, 2007; commonly assigned U.S. patent application Ser. No. 11/779,011, titled "Methods, Systems, And Computer-Readable Media For Providing A Ratio Of Tasks Per Technician," filed Jul. 17, 2007; and commonly assigned U.S. patent application Ser. No. 11/779,073, now abandoned, titled "Methods, Systems, And Computer-Readable Media For Providing Workforce To Load Information," filed Jul. 17, 2007; each of which is hereby incorporated herein by reference.

TECHNICAL FIELD

This application relates generally to the field of load balancing. More specifically, the disclosure provided herein relates to the field of dynamic workforce reallocation.

BACKGROUND

Telecommunications networks may provide a number of services, such as plain old telephone service ("POTS"), digital subscriber line ("DSL"), and cable. Maintenance of the telecommunications network generally involves the assignment of an appropriate technician to each outstanding job such that all of the outstanding jobs are timely filled. When a technician finishes one job and is ready to be dispatched to another job, the technician may receive next job information. The next job information may include, for example, the location of the next job and the type of work to be done in the next job. The technician may receive the next job information via a portable computing device, such as a laptop computer, which enables the technician to receive the job information out in the field without having to return to a base station.

A sufficient number of technicians are typically hired to comfortably fill an estimated number of jobs. There may be times, however, when the availability of technicians is greater than the availability of jobs for which the available technicians are qualified. In such a case, instead of receiving next job information on the portable computing device when the technician is ready to be dispatched to another job, the technician will receive a No Jobs Available ("NJA") message. The NJA message may be transmitted to the technician from a load balance personal computer ("PC") responsible for dispatching technicians to jobs.

The amount of unproductive time between the technician receiving a NJA message and being dispatched to the next job is known as Lost Productive Time ("LPT"). LPT may be a significant expense for entities involved in scheduling and dispatching technicians or other personnel. As such, the ability to track LPT may prove valuable for supervisors and managers responsible for dispatching the technicians.

LPT may conventionally be estimated by manually retrieving a technician's work list (i.e., a list containing the time periods in which the technician was dispatched to jobs) and calculating the amount of time between jobs on the work list. The work list, however, generally provides no information regarding whether or when the technician received a NJA message. Thus, no way existed to associate the amount of time between jobs with the NJA message to more precisely determine the LPT.

SUMMARY

Embodiments of the disclosure presented herein include methods, systems, and computer-readable media for generating a report indicating job availability. According to one aspect, a method for generating a report indicating job availability is provided. According to the method, a selected assignment group is displayed. A number of status messages received by a technician in the selected assignment group is displayed. The status messages indicate that no jobs are available for the technician. An amount of lost time associated with the technician in the selected assignment group is displayed. The lost time includes a difference between a time at which the technician received one of the status messages and a time at which the technician is dispatched to a next job. The amount of lost time associated with the technician in the selected assignment group is displayed.

According to another aspect, a system for generating a report indicating job availability is provided. The system includes a memory and a processor functionally coupled to the memory. The memory stores a program containing code for generating the report indicating job availability. The processor is responsive to computer-executable instructions contained in the program and operative to display a selected assignment group, display a number of status messages received by a technician in the selected assignment group, determine an amount of lost time associated with the technician in the selected assignment group, and display the amount of lost time associated with the technician in the selected assignment group. The status messages may indicate that no jobs are available for the technician. According to exemplary embodiments, the lost minutes comprise a difference between a time at which the technician received one of the status messages and a time at which the technician is dispatched to a next job.

According to yet another aspect, a computer-readable medium having instructions stored thereon for execution by a processor to perform a method for generating a report indicating job availability is provided. According to the method,

a selected assignment group is displayed. A number of status messages received by a technician in the selected assignment group is displayed. The status messages indicate that no jobs are available for the technician. An amount of lost time associated with the technician in the selected assignment group is displayed. The lost time includes a difference between a time at which the technician received one of the status messages and a time at which the technician is dispatched to a next job. The amount of lost time associated with the technician in the selected assignment group is displayed.

Other systems, methods, and/or computer program products according to embodiments will be or become apparent to one with skill in the art upon review of the following drawings and detailed description. It is intended that all such additional systems, methods, and/or computer program products be included within this description, be within the scope of the present invention, and be protected by the accompanying claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagram of an exemplary embodiment of a graphical user interface ("GUI") in a previous version.

FIG. 2 is a high-level diagram illustrating an allocation of technicians for maintaining and repairing a telecommunications network, in accordance with exemplary embodiments.

FIG. 3 is a block diagram illustrating a computer configured to generate a No Jobs Available ("NJA") report, in accordance with exemplary embodiments.

FIG. 4 is a block diagram of a workforce reallocation system, in accordance with exemplary embodiments.

FIG. 5 is a diagram illustrating a NJA report type menu, in accordance with exemplary embodiments.

FIG. 6 is a diagram illustrating a NJA report selection menu, in accordance with exemplary embodiments.

FIG. 7 is a diagram illustrating a NJA summary report, in accordance with exemplary embodiments.

FIG. 8 is a diagram illustrating a NJA details report, in accordance with exemplary embodiments.

FIG. 9 is a flow diagram illustrating a method for generating a NJA report, in accordance with exemplary embodiments.

DETAILED DESCRIPTION

The following detailed description is directed to methods, systems, and computer-readable media for generating a report indicating job availability (e.g., a No Jobs Available ("NJA") report). In the following detailed description, references are made to the accompanying drawings that form a part hereof, and which are shown by way of illustration specific embodiments or examples.

As used herein, the terms "work order," "job," and "task" are used interchangeably. Although not so limited, embodiments described herein primarily refer to a "work order" as the maintenance and repair of a telecommunications network by a technician. However, it will be apparent to one of ordinary skill in the art that, in further embodiments, a "work order" may include any suitable service that involves the allocation and reallocation of personnel to perform the service. As used herein, a technician refers to any suitable personnel for performing a service.

Embodiments described herein provide a Next Generation Load Balance ("NGLB") tool for work force reallocation. According to exemplary embodiments, the NGLB tool has a graphical user interface ("GUI") containing an organized overview of work order and technician statuses within a plu-

rality of turfs. The NGLB tool may be utilized by a load balance supervisor ("LBS") or other load balancing personnel to aid in the coordination of work force reallocation within the plurality of turfs. In one embodiment, the NGLB tool is provided to the LBS as a web-based application that can be accessed remotely via, for example, a web browser.

According to further embodiments, the NGLB tool includes a No Jobs Available ("NJA") report module, such as a NJA report module 216 of FIGS. 3 and 4. The NJA report module 216 generates a NJA report, such as a NJA summary report 402 of FIG. 7 and a NJA details report 404 of FIG. 8, according to one embodiment. The NJA report may provide any suitable information related to the NJA message including, but not limited to, the names of the technicians who received the NJA message, the identification (ID) number of the technicians who received the message, the number of times each technician received the NJA message, the type of job to which each technician is dispatched after receiving the NJA message, the amount of time between receiving the NJA message and the next dispatch (i.e., lost time), the amount of time that may be disregarded from the lost time (i.e., disregarded time), the time at which the NJA message is received, the time at which each technician is dispatched to the next job, and each technician's field supervisor. The NJA report enables the LBS or other load balancing personnel to easily and quickly determine Lost Productive Time ("LPT") and related information with respect to the technicians. In one embodiment, LPT is determined by subtracting the disregarded time from the lost time. An example of disregarded time may be lunch time.

Referring now to the drawings, it is to be understood that like numerals represent like elements through the several figures, and that not all components and/or steps described and illustrated with reference to the figures are required for all embodiments. FIG. 1 is an exemplary embodiment of the GUI 10 utilized in a previous version of the NGLB tool implemented by assignee of this application on or about April 2005. As illustrated in FIG. 1, the GUI 10 includes a plurality of turfs, such as turfs 12a, 12b, 12c, 12d. Each of the turfs, such as the turf 12a, includes four columns 14a, 14b, 14c, 14d. Each of the four columns 14a, 14b, 14c, 14d includes a first cell 16a and a second cell 16b. The first cell 16a includes job information and the second cell 16b includes technician information, according to one embodiment. The GUI 10 provides map presentation of the turfs 12a, 12b, 12c, 12d. The map presentation provides a visual mapping of physical distances between each of the plurality of the turfs 12a, 12b, 12c, 12d. In one example, the physical distance between the turf 12a and the turf 12b is a distance 18. In another example, the turf 12c and turf 12d are contiguous as indicated by the turf 12c being in contact with the turf 12d in the GUI 10.

FIGS. 2-9 as described below illustrate a current version of the NGLB tool. FIG. 2 is a high-level diagram illustrating an allocation of technicians 102 for maintaining and repairing a telecommunications network 100, in accordance with exemplary embodiments. The telecommunications network 100 is maintained and repaired by a plurality of technicians 102. As illustrated in FIG. 2, each of the plurality of technicians 102 is assigned to Alpha turf 104a or Beta turf 104b (collectively turfs 104) by a LBS 106 or other load balancing personnel. Each turf 104 includes a plain old telephone service ("POTS") bucket 108a, a digital subscriber line ("DSL") bucket 108b, and a cable bucket 108c (collectively buckets 108), according to one embodiment. Each of the plurality of buckets 108 represents a discipline in which a technician 102 may be assigned based on the skill set of the technician 102. In particular, the technician 102 in the POTS bucket 108a

should have a skill set for completing POTS related work orders. The technician 102 in the DSL bucket 108b should have a skill set for completing DSL related work orders. And the technician 102 in the cable bucket 108c should have a skill set for completing cable related work orders. In one embodiment, one or more technicians 102 may include multiple skill sets for completing work orders under multiple buckets 108. The technicians 102 may be managed by one or more field supervisors (not shown). For example, the technicians 102 in each bucket 108 may be managed by a separate field supervisor.

For the sake of simplicity and without limitation, only two turfs 104a and 104b and three buckets 108a, 108b, and 108c are illustrated in FIG. 2. However, it will be apparent to those of ordinary skill in the art that the telecommunications network 100 may include any suitable number of turfs 104 and any suitable number and types of buckets 108, according to further embodiments.

The LBS 106 utilizes a computer 110 to aid in reallocating the plurality of technicians 102 across the turfs 104. The computer 110 includes a reallocation module 112, which enables the computer 110 to display a graphical user interface ("GUI") (not shown) that provides the LBS 106 with an organized, visual presentation of the technicians 102, the turfs 104, and the buckets 108, according to one embodiment. In one example, if work orders in the Alpha turf 104a cannot be timely filled without additional technicians 102, the LBS 106 may view the GUI to determine if the technicians 102 in the Beta turf 104b can be utilized. In a further example, if service orders in the POTS bucket 108a cannot be timely filled without additional technicians 102, the LBS 106 may view the GUI to determine if the technicians 102 in the DSL bucket 108b or the cable bucket 108c are qualified to fill POTS work orders. In one embodiment, the computer 110 functions as a web server located remotely from the LBS 106 by executing a web server application, such as BEA WEBLOGIC SERVER from BEA SYSTEMS. In this embodiment, the LBS 106 may access the GUI over a network, such as a network 214 of FIGS. 3 and 4, using, for example, a local web browser interface on a personal computer ("PC") or other computing device.

In one embodiment, the reallocation module 112 generates at least a portion of the GUI based on data stored in a data storage unit 114. The data storage unit 114 may store any suitable data related to the technicians 102, such as the location, skills, schedule, and availability of the technicians 102. The data storage unit 114 may be a database. In one embodiment, the data storage unit 114 is an Integrated Dispatch System ("IDS"). The IDS is described in greater detail in U.S. Patent Application Publication No. 2004/0111311, entitled "Turfs and Skills for Multiple Technicians," to Ingman et al.; U.S. Patent Application Publication No. 2004/0111312, entitled "Validating Turfs for Work Orders," to Ingman et al.; U.S. Patent Application Publication No. 2004/0111313, entitled "Methods and Systems for Assigning Multiple Tasks," to Ingman et al.; and U.S. Patent Application Publication No. 2004/0111634, entitled "Security Permissions for an Integrated Dispatch System," to Ingman et al.

FIG. 3 and the following discussion are intended to provide a brief, general description of the computer 110 in which embodiments may be implemented. While embodiments will be described in the general context of program modules that execute in conjunction with an application program that runs on an operating system on a computer system, those skilled in the art will recognize that the embodiments may also be implemented in combination with other program modules.

Generally, program modules include routines, programs, components, data structures, and other types of structures that perform particular tasks or implement particular abstract data types. Moreover, those skilled in the art will appreciate that embodiments may be practiced with other computer system configurations, including hand-held devices, multiprocessor systems, microprocessor-based or programmable consumer electronics, minicomputers, mainframe computers, and the like. The embodiments may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. In a distributed computing environment, program modules may be located in both local and remote memory storage devices.

FIG. 3 is a block diagram illustrating the computer 110 configured to generate a NJA report, in accordance with exemplary embodiments. The computer 110 includes a processing unit 202, a memory 204, one or more user interface devices 206, one or more input/output ("I/O") devices 208, and one or more network devices 210, each of which is operatively connected to a system bus 212. The bus 212 enables bi-directional communication between the processing unit 202, the memory 204, the user interface devices 206, the I/O devices 208, and the network devices 210.

The processing unit 202 may be a standard central processor that performs arithmetic and logical operations, a more specific purpose programmable logic controller ("PLC"), a programmable gate array, or other type of processor known to those skilled in the art and suitable for controlling the operation of the server computer. Processing units are well-known in the art, and therefore not described in further detail herein.

The memory 204 communicates with the processing unit 202 via the system bus 212. In one embodiment, the memory 204 is operatively connected to a memory controller (not shown) that enables communication with the processing unit 202 via the system bus 212. According to exemplary embodiments, the memory 204 includes the reallocation module 112. In one embodiment, the reallocation module 112 is embodied in computer-readable media containing instructions that, when executed by the processing unit 202, generates a GUI (not shown) containing information related to the reallocation of the technicians 102 across a plurality of the turfs 104, as described in greater detail below. Exemplary information related to the reallocation across a plurality of the turfs 104 includes, but is not limited to, the physical proximity between the technicians 102, the availability of the technicians 102, the physical proximity between the turfs 104, the existing load on each of the turfs 104, and the anticipated load on each of the turfs 104. According to further embodiments, the reallocation module 112 may be embodied in hardware, software, firmware, or any combination thereof.

As illustrated in FIG. 3, the reallocation module 112 includes the NJA report module 216. The NJA report module 216 may be displayed as part of the GUI generated by the reallocation module 112 or separate from the GUI generated by the reallocation module 112. In one embodiment, the NJA report module 216 is embodied in computer-readable media containing instructions that, when executed by the processing unit 202, generates a NJA report, such as the NJA summary report 402 of FIG. 7 and the NJA details report 404 of FIG. 8, as described in greater detail below. The information provided by the NJA report may include, but is not limited to, the names of the technicians 102 who received the NJA message, the identification (ID) number of the technicians 102 who received the message, the number of times each technician 102 received the NJA message, the type of job to which each technician 102 is dispatched after receiving the NJA message,

the amount of time between receiving the NJA message and the next dispatch (i.e., lost time), the amount of time that may be disregarded from the lost time (e.g., disregarded time), the time at which the NJA message is received, the time at which each technician 102 is dispatched to the next job, and each technician's 102 field supervisor. The NJA report enables the LBS 106 or other load balancing personnel to easily and quickly determine Lost Productive Time ("LPT") and related information with respect to the technicians 102. In one embodiment, LPT is determined by subtracting the disregarded time from the lost time. According to further embodiments, the NJA report module 216 may be embodied in hardware, software, firmware, or any combination thereof.

By way of example, and not limitation, computer-readable media may comprise computer storage media and communication media. Computer storage media includes volatile and non-volatile, removable and non-removable media implemented in any method or technology for storage of information such as computer-readable instructions, data structures, program modules, or other data. Computer storage media includes, but is not limited to, RAM, ROM, Erasable Programmable ROM ("EPROM"), Electrically Erasable Programmable ROM ("EEPROM"), flash memory or other solid state memory technology, CD-ROM, digital versatile disks ("DVD"), or other optical storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store the desired information and which can be accessed by the computer 110.

The user interface devices 206 may include one or more devices with which a user accesses the computer 110. The user interface devices 206 may include, but are not limited to, computers, servers, personal digital assistants, cellular phones, or any suitable computing devices. In one embodiment, the computer 110 functions as a web server located remotely from the LBS 106 by executing a web server application, such as BEA WEBLOGIC SERVER from BEA SYSTEMS. By enabling the computer 110 to function as a web server, the LBS 106 may access the GUI generated by the computer 110 over a network, such as the network 214, using, for example, a local web browser interface on a PC or other computing device.

According to exemplary embodiments, the I/O devices 208 enable a user to interface with the reallocation module 112. In one embodiment, the I/O devices 208 are operatively connected to an I/O controller (not shown) that enables communication with the processing unit 202 via the system bus 212. The I/O devices 208 may include one or more input devices, such as, but not limited to, a keyboard, a mouse, and an electronic stylus. Further, the I/O devices 208 may include one or more output devices, such as, but not limited to, a display screen and a printer.

The network devices 210 enable the computer 110 to communicate with other networks or remote systems via a network 214. Examples of the network devices 210 may include, but are not limited to, a modem, a radio frequency ("RF") or infrared ("IR") transceiver, a telephonic interface, a bridge, a router, or a network card. The network 214 may include a wireless network such as, but not limited to, a Wireless Local Area Network ("WLAN") such as a WI-FI network, a Wireless Wide Area Network ("WWAN"), a Wireless Personal Area Network ("WPAN") such as BLUETOOTH, a Wireless Metropolitan Area Network ("WMAN") such a WiMAX network, or a cellular network. Alternatively, the network 214 may be a wired network such as, but not limited to, a Wide Area Network ("WAN") such as the Internet, a Local Area

Network ("LAN") such as the Ethernet, a wired Personal Area Network ("PAN"), or a wired Metropolitan Area Network ("MAN").

FIG. 4 is a block diagram of a workforce reallocation system 300, in accordance with exemplary embodiments. The workforce reallocation system 300 includes the computer 110, a network dispatch center ("NDC") 302, and the data storage unit 114, each of which is operatively connected to the network 214. The NDC 302 includes a load balance PC 304, which is utilized by the LBS 106, according to one embodiment. In further embodiments, the NDC 302 may include any suitable number of load balance PCs 304 to be utilized by any suitable number of LBSs 106. The data storage unit 114 may store any suitable data regarding the technicians 102, such as their location, skills, schedule, and availability. In one embodiment, the reallocation module 112 retrieves data from the data storage unit 114 to generate a GUI. The data storage unit 114 may be a database. In one embodiment, the data storage unit 114 is an IDS.

The load balance PC 304 includes a display 306 and a mouse 308, according to one embodiment. In further embodiments, the load balance PC 304 may include any suitable input/output devices 208. It will be apparent to one having ordinary skill in the art that the load balance PC 304 may be substituted with any suitable computing device, such as a personal digital assistant or a cellular phone. The display 306 may be configured to display the NJA report provided by the NJA report module 216.

In exemplary embodiments, the load balance PC 304 includes a web browser 310, such as INTERNET EXPLORER from MICROSOFT CORPORATION, for accessing the NJA report and for facilitating communications between the LBS 106 and the computer 110. Using the web browser 310, the LBS 106 may access the NJA report by inputting a Uniform Resource Locator ("URL") into the web browser 310. The load balance PC 304 may communicate with the computer 110 via Hypertext Transfer Protocol ("HTTP"). As previously described, the computer 110 may function as a web server. In one embodiment, access to the NJA report by the load balance PC 304 may be restricted by a login screen requiring, for example, a login identification and a password. In further embodiments, communications between the load balance PC 304 and the computer 110 may be encrypted by any suitable encryption mechanism.

In exemplary embodiments, the computer 110 may communicate with the data storage unit 114 via a Java Database Connectivity ("JDBC") application program interface ("API"). In one embodiment, the computer 110 retrieves data from the data storage unit 114 at regular intervals, such as every two to five minutes. In further embodiments, the computer 110 retrieves data from the data storage unit 114 when requested by the LBS 106. In other embodiments, the reallocation module 112 may be stored on the load balance PC 304 such that the GUI is accessed from the load balance PC 304 and such that the load balance PC 304 communicates with and retrieves data from the data storage unit 114.

FIGS. 5 and 6 and the following discussion provide exemplary embodiments of GUI menus providing access to a NJA report. According to embodiments, the GUI menus enable the LBS 106 to select a type of NJA report (i.e., the NJA summary report 402 or a NJA details report 404) and to select the content of the NJA report based on various selections. FIGS. 7 and 8 and the following discussion provide exemplary embodiments of the NJA summary report 402 and the NJA details report 404, respectively. It will be apparent to one having ordinary skill in the art that FIGS. 5-7 are provided only as an illustration and are not so limited. In one example,

a NJA report type menu **400** and a NJA report selection menu **500** are shown in a drop-down menu format. The NJA report selection menu **500** and the NJA report type menu **400** may be presented in any suitable format, according to further embodiments. In another example, the NJA summary report **402** and the NJA details report **404** are presented in a spreadsheet format. The NJA summary report **402** and the NJA details report **404** may be presented in any suitable format, according to further embodiments. The exemplary menus and reports described herein may also provide different selections and data.

FIG. **5** is a diagram illustrating the NJA report type menu **400**, in accordance with exemplary embodiments. In one embodiment, the NJA report type menu **400** is part of the GUI generated by the reallocation module **112**. The type menu **400** enables the LBS **106** to retrieve at least one of two types of NJA reports: the NJA summary report **402** and the NJA details report **404**. In one embodiment, the NJA summary report **402** provides aggregated information for the technicians **102** in an assignment group, while the NJA details report **404** provides individual information for each technician **102** in the assignment group. The NJA summary report **402** and the NJA details report **404** are described in greater detail below with respect to FIGS. **7** and **8**. In one embodiment, the type menu **400** is accessed by the LBS **106** using the web browser **310** in the load balance PC **304**. The type menu **400** may be displayed on the display **306**, and the LBS **106** may select the type of NJA report in the type menu **400** using the mouse **308**.

FIG. **6** is a diagram illustrating the NJA report selection menu **500**, in accordance with exemplary embodiments. In one embodiment, the NJA report selection menu **500** is provided after the LBS **106** selects a type of NJA report in the type menu **400**. The selection menu **500** enables the LBS **106** to choose a NDC selection **502** (referred to in FIG. **6** as a Work Management Center ("WMC") selection), an assignment group selection **504**, a start date selection **506**, and an end date selection **508**. In one embodiment, each NDC available in the NDC selection **502** represents a state (e.g., Georgia), and each assignment group available in the assignment group selection **504** represents a portion of the state represented by the NDC selection **502**. In further embodiments, the NDC selection **502** and the assignment group selection **504** may represent any suitable geographic areas. The start date selection **506** and the end date selection **508** represent the time frame for which the NJA report is requested.

In one embodiment, one or more of the NDC selection **502**, the assignment group selection **504**, the start date selection **506**, and the end date selection **508** may be left unselected. For example, if the start date selection **506** and the end date selection **508** are left unselected, the generated NJA report may include data for a default time frame. After selecting the NDC selection **502**, the assignment group selection **504**, the start date selection **506**, and the end date selection **508**, the LBS **106** may depress a Get Report button **510** to retrieve the NJA report.

FIG. **7** is a diagram illustrating an exemplary embodiment of the NJA summary report **402**. The NJA summary report **402** is presented in a spreadsheet format, according to one embodiment. The NJA summary report **402** may be generated by any suitable spreadsheet program, such as MICROSOFT EXCEL from MICROSOFT CORPORATION. In one embodiment, the NJA summary report **402** is generated based, at least in part, on information provided by the data storage unit **114**.

The NJA summary report **402** may include a NDC selection **602** (referred to in FIG. **7** as a WMC selection), an assignment group selection **604**, a start date selection **606**,

and an end date selection **608**. The NDC selection **602**, the assignment group selection **604**, the start date selection **606**, and the end date selection **608** may correspond to the NDC selection **502**, the assignment group selection **504**, the start date selection **506**, and the end date selection **508**. As illustrated in FIG. **7**, the NDC selection **602** indicates that an Alabama NDC was selected. The assignment group selection **604** indicates that no assignment group was selected. In one embodiment, selecting no assignment groups in the assignment group selection **604** is the same as selecting every assignment group in the assignment group selection **604**. The start date selection **606** and the end date selection **608** indicate that a time frame within Jun. 11, 2007 was selected.

In response to depressing a Get Report button **610**, a summary portion **612** and a report portion **614** may be displayed. As illustrated in FIG. **7**, the summary portion **612** provides data for the NDC selected in the NDC selection **602**, while the report portion **614** provides data for one or more assignment groups selected in the assignment group selection **604**. The summary portion **612** may include a NDC column **616** (referred to in FIG. **7** as a WMC column), a number of NJA messages column **618**, number of total lost minutes column **620**, a number of lunch minutes column **622**, a number of net lost minutes column **624**, a number of plain old telephone service ("POTS") minutes column **626**, a number of digital subscriber line ("DSL") minutes column **628**, a number of cable minutes column **630**, a number of specials minutes column **632**, and a number of non-demand ("ND") minutes column **634**.

According to exemplary embodiments, the NDC column **616** corresponds to the NDC selected via the NDC selection **602**. At the row **636**, the NDC column **616** indicates that the Alabama NDC was selected. According to exemplary embodiments, the number of NJA messages column **618** indicates the aggregate number of NJA received by the technicians **102** for all of the assignment groups selected in the assignment group selection **604**. At the row **636**, the number of NJA messages column **618** indicates that **220** NJA messages were received. According to exemplary embodiments, the number of total lost minutes column **620** indicates the aggregate amount of time lost by the technicians **102** for all of the assignment groups selected in the assignment group selection **604** between receiving a NJA message and being dispatched to the next job. At the row **636**, the number of total lost minutes column **620** indicates that 1,640 minutes were lost. According to exemplary embodiments, the number of lunch minutes column **622** indicates the number of lost minutes specified the number of total lost minutes column **620** that were attributable to lunch time. At the row **636**, the number of lunch minutes column **622** indicates that 997 of the 1,640 minutes were attributable to lunch time. The lunch time may be any suitable time frame, for example, between 11 am and 1 pm. According to exemplary embodiments, the number of net lost minutes column **624** indicates the LPT, which is the difference between the number of total lost minutes column **620** and the number of lunch minutes column **622**. At the row **636**, the number of net lost minutes column **624** is 643 minutes (i.e., 1,640-997 minutes).

According to exemplary embodiments, the number of POTS minutes column **626** indicates a number of total lost minutes and number of lunch minutes attributable to the technicians **102** assigned to a POTS bucket. At the row **636**, the number of POTS minutes column **626** indicates 864 total lost minutes and 382 lunch minutes attributable to the technicians **102** assigned to the POTS bucket for POTS related work orders. According to exemplary embodiments, the number of DSL minutes column **628** indicates a number of total

lost minutes and number of lunch minutes attributable to the technicians **102** assigned to a DSL bucket for DSL related work orders. At the row **636**, the number of DSL minutes column **628** indicates 227 total lost minutes and 220 lunch minutes attributable to the technicians **102** assigned to the DSL bucket. According to exemplary embodiments, the number of cable minutes column **630** indicates a number of total lost minutes and number of lunch minutes attributable to the technicians **102** assigned to a cable bucket for cable related work orders. At the row **636**, the number of cable minutes column **630** indicates nine total lost minutes and zero lunch minutes attributable to the technicians **102** assigned to the cable bucket. According to exemplary embodiments, the number of specials minutes column **632** indicates a number of total lost minutes and number of lunch minutes attributable to the technicians **102** assigned to a specials bucket for special circuit related work orders (e.g., Digital Signal **1** ("DS1") and Digital Signal **3** ("DS3")). At the row **636**, the number of specials minutes column **632** indicates 129 total lost minutes and 128 lunch minutes attributable to the technicians **102** assigned to the specials bucket. According to exemplary embodiments, the number of ND minutes column **634** indicates a number of total lost minutes and number of lunch minutes attributable to the technicians **102** assigned to a ND bucket for work orders not assigned to the POTS, DSL, cable, and specials buckets. At the row **636**, the number of ND minutes column **634** indicates 361 total lost minutes and 267 lunch minutes attributable to the technicians **102** assigned to the ND bucket.

The report portion **614** may include an assignment group column **638**, a number of NJA messages column **640**, number of total lost minutes column **642**, a number of lunch minutes column **644**, a number of POTS total minutes column **646**, a number of POTS lunch minutes column **648**, a number of DSL total minutes column **650**, a number of DSL lunch minutes column **652**, a number of cable total minutes column **654**, a number of cable lunch minutes column **656**, a number of specials total minutes column **658**, a number of specials lunch minutes column **660**, a number of ND total minutes column **662**, and a number of ND lunch minutes column **664**.

According to exemplary embodiments, the assignment group column **638** corresponds to the assignment group selected via the assignment group selection **604**. As described above, the assignment group selection **604** indicates that all of the assignment groups were selected. As such, the assignment group column **638** includes all of the assignment groups, such as an assignment group **668**, associated with the Alabama NDC selected via the NDC selection **602**. The number of NJA messages column **640** indicates that three NJA messages were received by the technicians **102** in the assignment group **668**. The number of total lost minutes column **642** indicates that sixteen minutes were lost between receiving a NJA message and being dispatched to the next job in the assignment group **668**. The number of lunch minutes column **644** indicates that sixteen of the sixteen minutes in the number of total lost minutes column **642** were attributable to lunch time. The number of POTS total minutes column **646** and the number of POTS lunch minutes column **648** indicate sixteen total lost minutes and sixteen lunch minutes, respectively, attributable to the technicians **102** assigned to the POTS bucket. The number of DSL total minutes column **650** and the number of DSL lunch minutes column **652** indicate zero total lost minutes and zero lunch minutes, respectively, attributable to the technicians **102** assigned to the DSL bucket. The number of cable total minutes column **654** and the number of cable lunch minutes column **656** indicate zero total lost minutes and zero lunch minutes, respectively, attributable to the technicians

102 assigned to the cable bucket. The number of specials total minutes column **658** and the number of specials lunch minutes column **660** indicate zero total lost minutes and zero lunch minutes, respectively, attributable to the technicians **102** assigned to the specials bucket. The number of ND total minutes column **662** and the number of ND lunch minutes column **664** indicate zero total lost minutes and zero lunch minutes, respectively, attributable to the technicians **102** assigned to the ND bucket.

It should be appreciated that the POTS, DSL, cable, specials, and ND buckets illustrated in FIG. **7** are only exemplary. In further embodiments, the NJA summary report **402** may include different buckets. It should further be appreciated that different columns may be illustrated in FIG. **7** as contemplated by those skilled in the art.

Although not so limited, the number of lost minutes column **620** and the number of lunch minutes column **622** measure time in minutes. However, it will be apparent to one having ordinary skill in the art that the time may be measured in any suitable unit of time. Further, while FIG. **7** illustrates that only lunch minutes are disregarded from the LPT determination, it should be appreciated that other suitable time periods may be disregarded as well, according to further embodiments.

FIG. **8** is a diagram illustrating the NJA details report **404**, in accordance with exemplary embodiments. The NJA details report **404** is presented in a spreadsheet format, according to one embodiment. The NJA details report **404** may be generated by any suitable spreadsheet program, such as MICROSOFT EXCEL from MICROSOFT CORPORATION. In one embodiment, the NJA details report **404** is generated based, at least in part, on information provided by the data storage unit **114**.

The NJA details report **404** may include a NDC column **702** (referred to in FIG. **8** as a WMC column), an assignment group column **704**, a bucket column **706**, a NJA message time column **708**, a technician identification ("ID") column **710**, a technician name column **712**, a next dispatch time column **714**, a number of lost minutes column **716**, a number of NJA messages column **718**, and a supervisor column **720**. The NDC column **702** corresponds to the NDC selection **502**. At a row **722**, the NDC column **702** indicates that the Alabama NDC was selected via the NDC selection **502**. The assignment group column **704** corresponds to the assignment group selection **504**. At the row **722**, the assignment group column **704** indicates the Birmingham assignment group was selected via the assignment group selection **504**. According to exemplary embodiments, the bucket column **706** indicates the discipline in which the technician **102** identified by the technician ID column **710** and the technician name column **712** is assigned based on the skill set of the identified technician **102**. Exemplary buckets include, but are not limited to, a plain old telephone service ("POTS") bucket, a digital subscriber line ("DSL") bucket, and a cable bucket. The technician **102** in the POTS bucket, for example, is capable of filling POTS related work orders, and the technician **102** in the DSL bucket, for example, is capable of filling DSL related work orders.

The NJA message time column **708** may indicate the date and time at which the technician **102** identified by the technician ID column **710** and the technician name column **712** received a NJA message. In one embodiment, the NJA message time column **708** identifies the date and time of the most recent message if the technician **102** receives multiple NJA messages. The technician ID column **710** and the technician name column **712** identify a particular technician, such as the technician **102**. The next dispatch time column **714** indicates the date and time at which the technician **102** identified by the

technician ID column **710** and the technician name column **712** was dispatched to the next job after receiving the NJA message, according to exemplary embodiments. The number of lost minutes column **716** indicates the time lost by the technicians **102** between receiving the NJA message and being dispatched to the next job. As such, the number of minutes in the number of lost minutes column **716** is the number of minutes between the time in the NJA message time column **708** and the next dispatch time column **714**. For example, at the row **722**, the NJA message time column **708** indicates a time of 13:39, and the next dispatch time column **714** indicates a time of 13:45. The number of minutes between 13:39 and 13:45 is six, which is the number of minutes indicated in the number of lost minutes column **716** at the row **722**.

The number of NJA messages column **718** indicates the number of NJA messages received by the technician **102** identified by the technician ID column **710** and the technician name column **712** since the time and date identified in the NJA message time column **708**, according to exemplary embodiments. At the row **722**, the number of NJA messages column **718** indicates that one NJA message was received. The supervisor column **720** indicates the name of the field supervisor responsible for managing the technician **102** identified by the technician ID column **710** and the technician name column **712**. In one embodiment, the field supervisor is responsible for each technician **102** in a particular bucket.

Although not illustrated in FIG. **8**, the NJA details report **404** may further include columns related to disregarded time. In further embodiments, the disregarded time may be determined based on information provided in the NJA details report **404**. For example, a number of lunch minutes may be determined by examining the span between the time indicated in the NJA message time column **708** and the time indicated in the next dispatch time column **714**, and determining the number of minutes in the span that overlaps with the lunch time. The lunch time may be any suitable time frame, for example, between 11 am and 1 pm. In one embodiment, the LPT is determined by subtracting the number of lunch minutes from the number of lost minutes. In further embodiments, the LPT may be determined by subtracting any suitable time that is not considered to be productive time.

FIG. **9** is a flow diagram illustrating a method **800** for generating a report indicating job availability. After the LBS **106** selects an assignment group in the assignment group selection **504**, the NJA report module **216** displays (at **802**) the selected assignment group. For example, FIG. **7** shows the selected assignment group under the assignment group selection **604**, and FIG. **8** shows the selected assignment group under the assignment group column **704**. The NJA report module **216** displays (at **804**) a number of NJA messages received by a technician, such as the technician **102**, in the selected assignment group. In one embodiment, an aggregate number of NJA messages for a plurality of the technicians **102** in the selected assignment group is displayed, as illustrated in FIG. **7** under the number of NJA messages column **618**. In further embodiments, the number of NJA messages received by each technician **102** in the selected assignment group is displayed, as illustrated in FIG. **8** under the number of NJA messages column **718**.

The NJA report module **216** determines and displays (at **806**) a number of lost minutes associated with the technician **102** in the selected assignment group. As previously described, the lost minutes are the difference between the time at which the technician **102** received one of the NJA messages and the time at which the technician **102** is dispatched to the next job. In FIG. **7**, the lost minutes are indi-

cated under the number of total lost minutes column **620**. In FIG. **8**, the lost minutes are indicated under the number of lost minutes column **716**, which is the difference between the time shown in the NJA message time column **708** and the time shown in the next dispatch time column **714**. In further embodiments, the NJA report module **216** reduces the calculated lost time (e.g., the lost minutes under the total lost minutes column **620**) by an amount associated with the disregarded time (e.g., the lunch time under the lunch minutes column **622**) to determine a LPT (e.g., the net lost minutes column under the net lost minutes column **624**) and displays the LPT.

Although the subject matter presented herein has been described in conjunction with one or more particular embodiments and implementations, it is to be understood that the embodiments defined in the appended claims are not necessarily limited to the specific structure, configuration, or functionality described herein. Rather, the specific structure, configuration, and functionality are disclosed as example forms of implementing the claims.

The subject matter described above is provided by way of illustration only and should not be construed as limiting. Various modifications and changes may be made to the subject matter described herein without following the example embodiments and applications illustrated and described, and without departing from the true spirit and scope of the embodiments, which is set forth in the following claims.

What is claimed is:

1. A method for generating a report indicating job availability, comprising:

receiving, by a processor, a selection of an assignment group from a plurality of assignment groups, each of the plurality of assignment groups representing a geographic area, the report being limited to the assignment group;

displaying, by the processor in the report, the assignment group;

determining, by the processor, a quantity of status messages received by a technician in the assignment group, each of the status messages expressly notifying the technician that no jobs are available for the technician;

displaying, by the processor in the report, a first numeric value of the quantity of the status messages received by the technician in the assignment group;

determining, by the processor, an amount of lost time associated with the technician in the assignment group, the lost time comprising a difference between a time at which the technician received one of the status messages and a time at which the technician is dispatched to a next job;

displaying, by the processor in the report, a type of the next job the technician is dispatched to after receiving the one of the status messages; and

displaying, by the processor in the report, a second numeric value of the amount of the lost time associated with the technician in the assignment group, the report comprising a spreadsheet-formatted report having a plurality of rows, each of the plurality of rows specifying one of a plurality of technicians, the first numeric value corresponding to the one of the plurality of technicians, and the second numeric value corresponding to the one of the plurality of technicians.

2. The method of claim **1**, wherein displaying, in the report, the second numeric value of the amount of the lost time associated with the technician in the assignment group com-

prises displaying, in the report, the second numeric value of an amount of lost minutes associated with the technician in the assignment group.

3. The method of claim **1**, wherein displaying, in the report, the first numeric value of the quantity of the status messages received by the technician in the assignment group comprises displaying, in the report, the first numeric value of an aggregate quantity of status messages received by the plurality of technicians in the assignment group.

4. The method of claim **1**, wherein displaying, in the report, the second numeric value of the amount of the lost time associated with the technician in the assignment group comprises displaying, in the report, the second numeric value of an aggregate amount of lost time associated with the plurality of technicians in the assignment group.

5. The method of claim **1**, further comprising displaying, in the report, at least one category of time to be disregarded from the amount of the lost time for determining lost productive time.

6. The method of claim **5**, wherein displaying, in the report, the at least one category of time to be disregarded from the amount of the lost time for determining the lost productive time comprises displaying, in the report, an amount of lunch time associated with the technician in the assignment group along with the amount of the lost time.

7. The method of claim **1**, further comprising displaying, in the report, a bucket, the time at which the technician received the one of the status messages, the time at which the technician is dispatched to the next job, a name of the technician, and a supervisor of the technician.

8. A system for generating a report indicating job availability, comprising

a memory for storing a program containing code for generating the report indicating job availability; and

a processor being responsive to computer-executable instructions contained in the program which, when executed by the processor, cause the processor to perform operations comprising:

receiving a selection of an assignment group from a plurality of assignment groups, each of the plurality of assignment groups representing a geographic area, the report being limited to the assignment group;

displaying, in the report, the assignment group;

determining a quantity of status messages received by a technician in the assignment group, each of the status messages expressly notifying the technician that no jobs are available for the technician;

displaying, in the report, a first numeric value of the quantity of the status messages received by the technician in the assignment group;

determining an amount of lost time associated with the technician in the assignment group, the lost time comprising a difference between a time at which the technician received one of the status messages and a time at which the technician is dispatched to a next job;

displaying, in the report, a type of the next job the technician is dispatched to after receiving the one of the status messages; and

displaying, in the report, a second numeric value of the amount of the lost time associated with the technician in the assignment group, the report comprising a spreadsheet-formatted report having a plurality of rows, each of the plurality of rows specifying one of a plurality of technicians, the first numeric value corresponding to the one of the plurality of technicians, and the second numeric value corresponding to the one of the plurality of technicians.

9. The system of claim **8**, wherein the amount of the lost time associated with the technician in the assignment group comprises an amount of lost minutes associated with the technician in the assignment group.

10. The system of claim **8**, wherein the quantity of the status messages received by the technician in the assignment group comprises an aggregate quantity of status messages received by the plurality of technicians in the assignment group.

11. The system of claim **8**, wherein the amount of the lost time associated with the technician in the assignment group comprises an aggregate amount of lost time associated with the plurality of technicians in the assignment group.

12. The system of claim **8**, wherein the operations further comprise displaying, in the report, at least one category of time to be disregarded from the amount of the lost time for determining lost productive time.

13. The system of claim **12**, wherein the at least one category of time to be disregarded from the amount of the lost time for determining the lost productive time comprises an amount of lunch time associated with the technician in the assignment group.

14. A computer-readable medium having instructions stored thereon which, when executed by a processor, cause the processor to perform operations comprising:

receiving a selection of an assignment group from a plurality of assignment groups, each of the plurality of assignment groups representing a geographic area, a report being limited to the assignment group;

displaying, in the report, the assignment group;

determining a quantity of status messages received by a technician in the assignment group, each of the status messages expressly notifying the technician that no jobs are available for the technician;

displaying, in the report, a first numeric value of the quantity of the status messages received by the technician in the assignment group;

determining an amount of lost time associated with the technician in the assignment group, the lost time comprising a difference between a time at which the technician received one of the status messages and a time at which the technician is dispatched to a next job;

displaying, in the report, a type of the next job the technician is dispatched to after receiving the one of the status messages; and

displaying, in the report, a second numeric value of the amount of the lost time associated with the technician in the assignment group, the report comprising a spreadsheet-formatted report having a plurality of rows, each of the plurality of rows specifying one of a plurality of technicians, the first numeric value corresponding to the one of the plurality of technicians, and the second numeric value corresponding to the one of the plurality of technicians.

15. The computer-readable medium of claim **14**, wherein displaying, in the report, the second numeric value of the amount of the lost time associated with the technician in the assignment group comprises displaying, in the report, the second numeric value of an amount of lost minutes associated with the technician in the assignment group.

16. The computer-readable medium of claim **14**, wherein displaying, in the report, the first numeric value of the quantity of the status messages received by the technician in the assignment group comprises displaying, in the report, the first numeric value of an aggregate quantity of status messages received by the plurality of technicians in the assignment group.

17. The computer-readable medium of claim **14**, wherein displaying, in the report, the second numeric value of the amount of the lost time associated with the technician in the assignment group comprises displaying, in the report, the second numeric value of an aggregate amount of lost time associated with the plurality of technicians in the assignment group.

18. The computer-readable medium of claim **14**, wherein the operations further comprise displaying, in the report, at least one category of time to be disregarded from the amount of the lost time for determining lost productive time.

19. The computer-readable medium of claim **18**, wherein displaying, in the report, the at least one category of time to be disregarded from the amount of the lost time for determining the lost productive time comprises displaying, in the report, an amount of lunch time associated with the technician in the assignment group along with the amount of the lost time.

20. The computer-readable medium of claim **14**, wherein the operations further comprise displaying, in the report, a bucket, the time at which the technician received the one of the status messages, the time at which the technician is dispatched to the next job, a name of the technician, and a supervisor of the technician.

*   *   *   *   *